

# **Michigan Acute Care Surgery Collaborative**

**Grand Rapids, MI  
April 26, 2023**



# **Michigan Acute Care Surgery Collaborative**



# **Michigan Acute Care Surgery Collaborative**



# Disclosures

- ◆ Mark Hemmila Grants
  - Blue Cross Blue Shield of Michigan
  - Michigan Department of Health and Human Services

**No Photos Please**



# Agenda

- ◆ Welcome/Updates
- ◆ Mark Hemmila
  - Gallbladder Data
- ◆ Jill Jakubus and Collaborative
  - Gallbladder Readmissions
  - Order of Presentations
- ◆ Lunch

# Agenda

- ◆ Finish Gallbladder if needed
- ◆ Jill Jakubus
  - Trend Graphs
- ◆ Kim Kramer
  - Future metrics
  - Selection rubric
- ◆ Mark Hemmila
  - Data
  - Other topics

# Future Meetings

- ◆ 3 per year
  - ◆ Wednesday September 6, 2023, Ypsilanti
  - ◆ Wednesday November 29, 2023, Ypsilanti
  - ◆ March/April
- 
- ◆ Let us know if you see problems with dates
  - ◆ In-person if possible
    - Virtual – Weather, COVID



# BCBSM 2023 and 2024

## ◆ SOW Deliverables

- 3 Meetings/yr
- Data validation program
- Performance Index
  - Participation 2023 - Not being included by BCBSM
  - Metrics 2024
    - No target date for P4P yet
    - Rubric
  - MVC and EGS data > discussion with BCBSM

# **Gallbladder Data and Reports**

**Mark Hemmila, MD**

# Overview

- ◆ Data pull March 3, 2023
- ◆ Time frame
  - 1/1/2020 to 3/1/2023
  - Power - 3 years
  - 4-month shift

# Gallbladder

| <u>Index Admission</u> |                                      | Your Center |          | Aggregate |          |
|------------------------|--------------------------------------|-------------|----------|-----------|----------|
|                        |                                      | N =         | 1058     | N =       | 7454     |
| <u>Variable</u>        |                                      | <u>N</u>    | <u>%</u> | <u>N</u>  | <u>%</u> |
| Total Cases            | Index Admissions                     | 1058        | 14.2     | 7454      | 100.0    |
|                        | Total Admissions (with Readmissions) | 1256        | 15.3     | 8221      | 100.0    |
| Diagnosis              | Acute cholecystitis                  | 710         | 67.1     | 5744      | 77.1     |
|                        | Symptomatic cholelithiasis           | 6           | 0.6      | 219       | 2.9      |
|                        | Cholangitis                          | 57          | 5.4      | 202       | 2.7      |
|                        | Choledocholithiasis                  | 266         | 25.1     | 1560      | 20.9     |
|                        | Gallstone pancreatitis               | 103         | 9.7      | 742       | 10.0     |
|                        | Other                                | 12          | 1.1      | 117       | 1.6      |

# Gallbladder

| <u>Index Admission</u>                             |                               | <b>Your Center</b> |             | <b>Aggregate</b> |             |
|--|-------------------------------|--------------------|-------------|------------------|-------------|
|  |                               | <b>N =</b>         | <b>1058</b> | <b>N =</b>       | <b>7454</b> |
| <u>Variable</u>                                    |                               | <u>N</u>           | <u>%</u>    | <u>N</u>         | <u>%</u>    |
| Operation  | All diagnoses                 | 755                | 71.4        | 6243             | 83.8        |
|  | Acute cholecystitis           | 534                | 75.2        | 5038             | 87.7        |
|  | Symptomatic cholelithiasis    | 5                  | 83.3        | 180              | 82.2        |
|  | Cholangitis                   | 21                 | 36.8        | 94               | 46.5        |
|  | Choledocholithiasis           | 186                | 69.9        | 1284             | 82.3        |
|  | Gallstone pancreatitis        | 74                 | 71.8        | 594              | 80.1        |
|  | Other                         | 4                  | 33.3        | 54               | 46.2        |
| Cholecystectomy Technique<br>(All diagnosis)       | Total excision                | 595                | 92.7        | 5505             | 96.7        |
|  | Sub-total w/Fenestration      | 20                 | 3.1         | 79               | 1.4         |
|  | Sub-total w/Reconstruction    | 20                 | 3.1         | 44               | 0.8         |
|  | Sub-total Other/Not Specified | 7                  | 1.1         | 66               | 1.2         |
| Cholecystectomy Technique<br>(Acute cholecystitis) | Total excision                | 415                | 91.0        | 4434             | 96.4        |
|  | Sub-total w/Fenestration      | 20                 | 4.4         | 74               | 1.6         |
|  | Sub-total w/Reconstruction    | 17                 | 3.7         | 38               | 0.8         |
|  | Sub-total Other/Not Specified | 4                  | 0.9         | 53               | 1.2         |

# Gallbladder

| <u>Index Admission</u>                 |                           | Your Center |          | Aggregate |          |   |        |
|--|---------------------------|-------------|----------|-----------|----------|---|--------|
|  |                           | N =         | 1058     | N =       | 7454     |   |        |
| <u>Variable</u>                        |                           | <u>N</u>    | <u>%</u> | <u>N</u>  | <u>%</u> |   |        |
| Gallbladder ERCP<br>(Index, Diagnosis) | Yes                       | 277         | 26.2     | 1522      | 20.4     |   |        |
|  | Common bile duct stent    | 25          | 9.0      | 110       | 7.2      |   |        |
|  | Cystic duct stent         | 10          | 3.6      | 10        | 0.7      |   |        |
|  | Pancreatic duct stent     | 15          | 5.4      | 20        | 1.3      |   |        |
|  | Other stent               | 13          | 4.7      | 28        | 1.8      |   |        |
|  | Removal CBD stones/sludge | 85          | 30.7     | 509       | 33.4     | ↑ | 23 ish |
|  | Sphincterotomy            | 80          | 28.9     | 547       | 35.9     |   |        |
| Gallbladder ERCP<br>(Index, Secondary) | Yes                       | 68          | 9.0      | 421       | 6.7      |   |        |
|  | Common bile duct stent    | 8           | 11.8     | 41        | 9.7      |   |        |
|  | Cystic duct stent         | 0           | 0.0      | 5         | 1.2      |   |        |
|  | Pancreatic duct stent     | 1           | 1.5      | 2         | 0.5      |   |        |
|  | Other stent               | 0           | 0.0      | 7         | 1.7      |   |        |
|  | Removal CBD stones/sludge | 18          | 26.5     | 118       | 28.0     | ↑ | 22 ish |
|  | Sphincterotomy            | 16          | 23.5     | 130       | 30.9     |   |        |

# Gallbladder

|  |                               |     |      |      |      |
|--|-------------------------------|-----|------|------|------|
| Cholecystectomy Technique<br>(All diagnosis) | Total excision                | 595 | 92.7 | 5505 | 96.7 |
|  | Sub-total w/Fenestration      | 20  | 3.1  | 79   | 1.4  |
|  | Sub-total w/Reconstruction    | 20  | 3.1  | 44   | 0.8  |
|  | Sub-total Other/Not Specified | 7   | 1.1  | 66   | 1.2  |

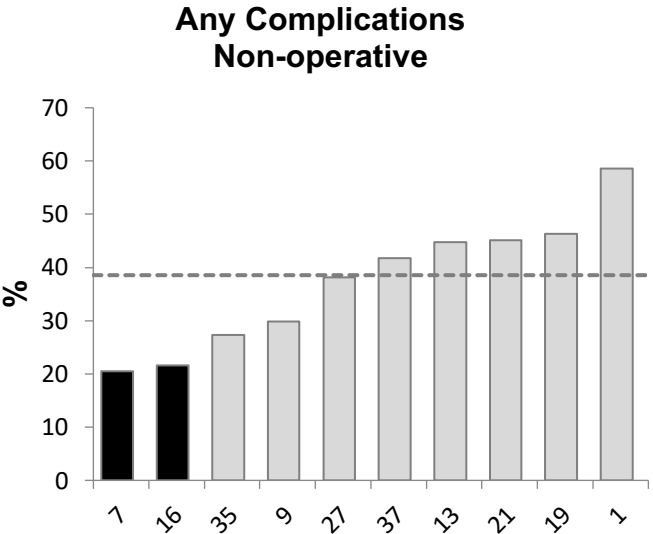
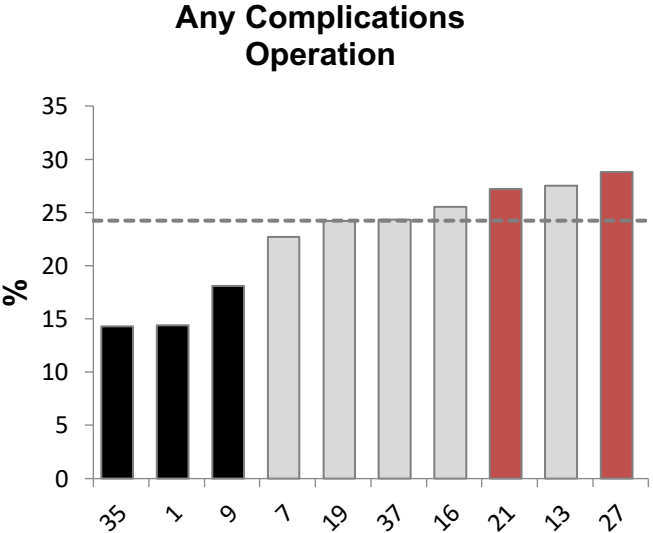
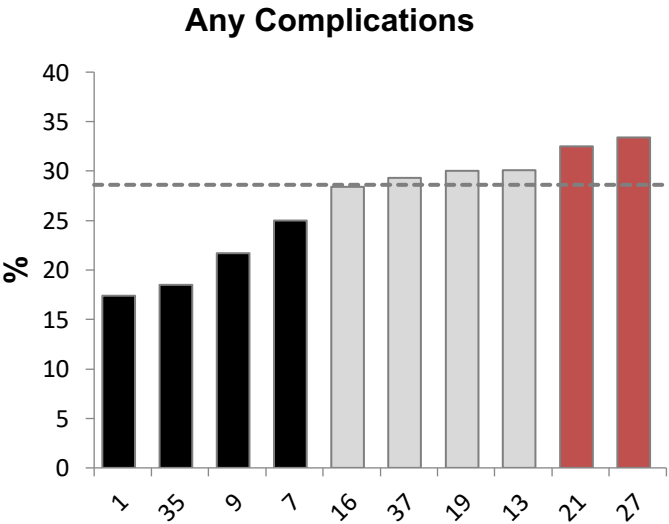
| Cholecystectomy<br>Technique            | Secondary ERCP |              | Total         |
|---|----------------|--------------|---------------|
|   | Yes            | No           |               |
| Sub-Total Excision w/<br>Fenestration   | 26<br>32.91    | 53<br>67.09  | 79<br>100.00  |
| Sub-Total Excision w/<br>Reconstruction | 6<br>13.64     | 38<br>86.36  | 44<br>100.00  |
| Sub-Total Excision Ot                   | 19<br>28.79    | 47<br>71.21  | 66<br>100.00  |
| Total                                   | 51<br>26.98    | 138<br>73.02 | 189<br>100.00 |

# Gallbladder - New

| <u>Index Admission</u>  |                                  | Your Center |          | Aggregate |          |
|-------------------------|----------------------------------|-------------|----------|-----------|----------|
|                         |                                  | N =         | 1058     | N =       | 7454     |
| <u>Variable</u>         |                                  | <u>N</u>    | <u>%</u> | <u>N</u>  | <u>%</u> |
| IR Procedure<br>(Index) | Yes                              | 134         | 12.7     | 564       | 7.6      |
|                         | Drain                            | 5           | 3.7      | 70        | 12.4     |
|                         | Aspiration                       | 3           | 2.2      | 10        | 1.8      |
|                         | Angiogram                        | 3           | 2.2      | 10        | 1.8      |
|                         | Embolization                     | 0           | 0.0      | 6         | 1.1      |
|                         | PTC tube                         | 7           | 5.2      | 22        | 3.9      |
|                         | Cholecystostomy tube - insertion | 105         | 78.4     | 406       | 72.0     |
|                         | TIPS                             | 0           | 0.0      | 0         | 0.0      |
|                         | Paracentesis                     | 4           | 3.0      | 15        | 2.7      |
|                         | Thoracentesis                    | 2           | 1.5      | 19        | 3.4      |
|                         | Biopsy                           | 6           | 4.5      | 20        | 3.5      |
|                         | IVC filter                       | 0           | 0.0      | 1         | 0.2      |
|                         | Cholecystostomy tube - exchange  | 3           | 2.2      | 20        | 3.5      |
|                         | Cholecystostomy tube - removal   | 1           | 0.7      | 1         | 0.2      |
|                         | Gallbladder ablation             | 0           | 0.0      | 0         | 0.0      |
|                         | Gallstone extraction             | 0           | 0.0      | 0         | 0.0      |

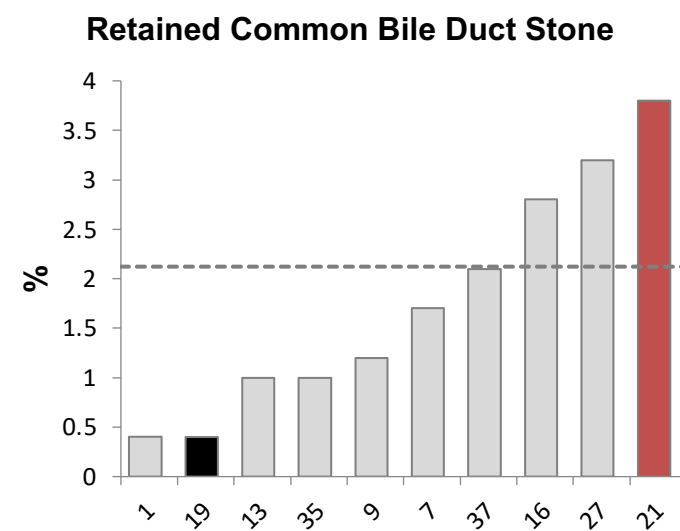
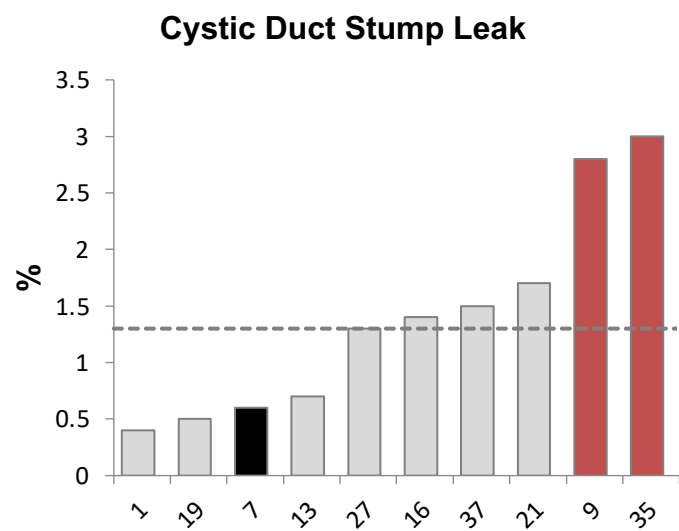


# Gallbladder



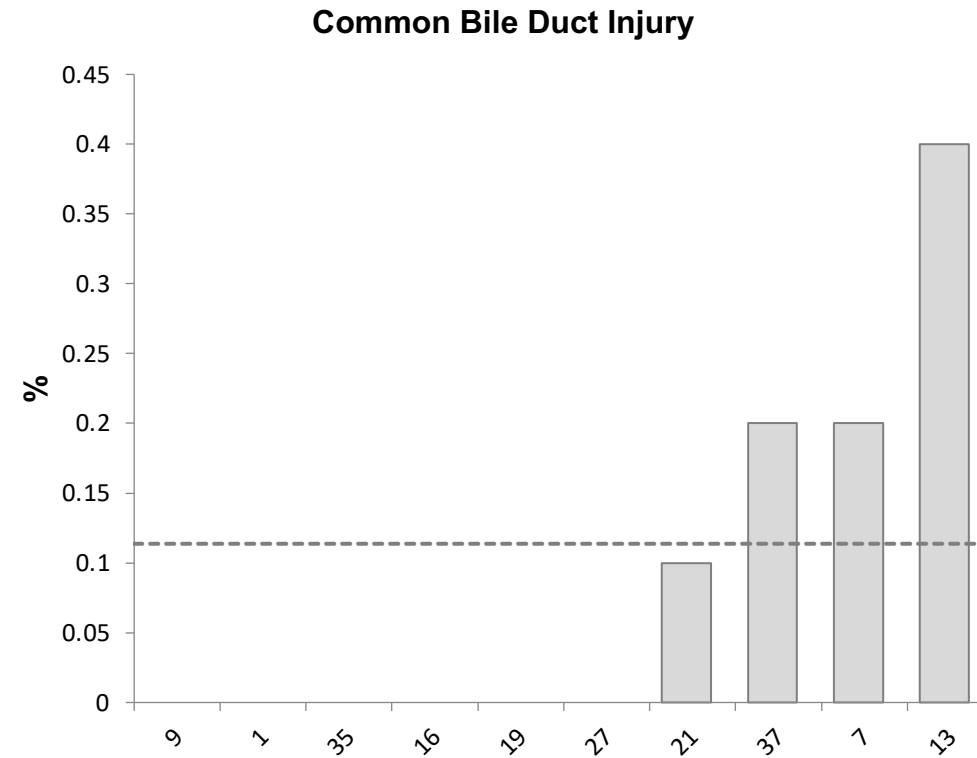
Graphs Any Comp

# Gallbladder



Intra-operative cholangiograms ?

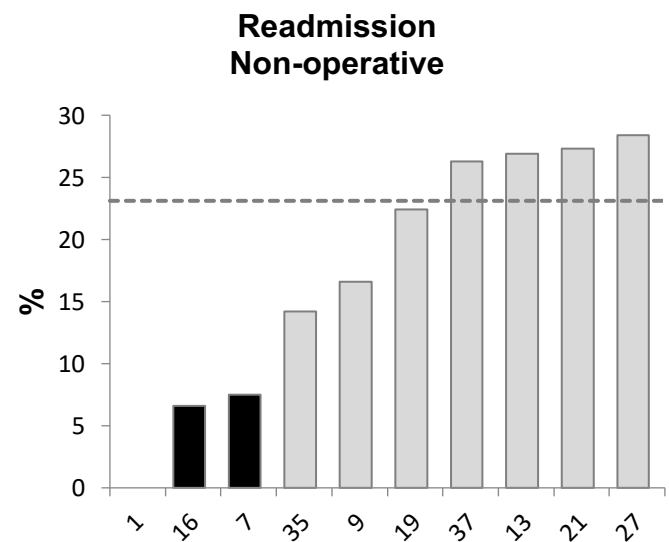
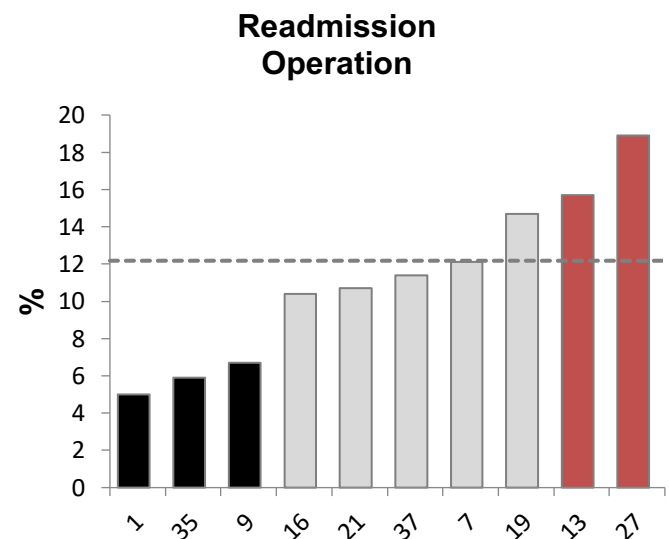
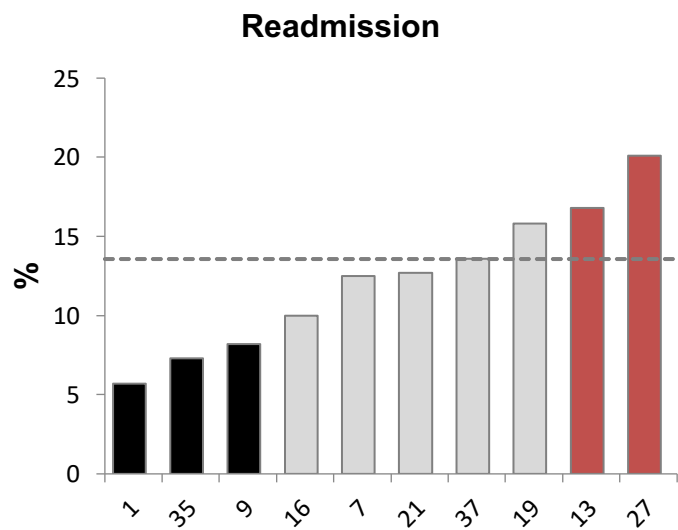
Graphs Cystic Duct SL and Retained CBD Stone



7 patients out of 6,243 operations = 0.11%

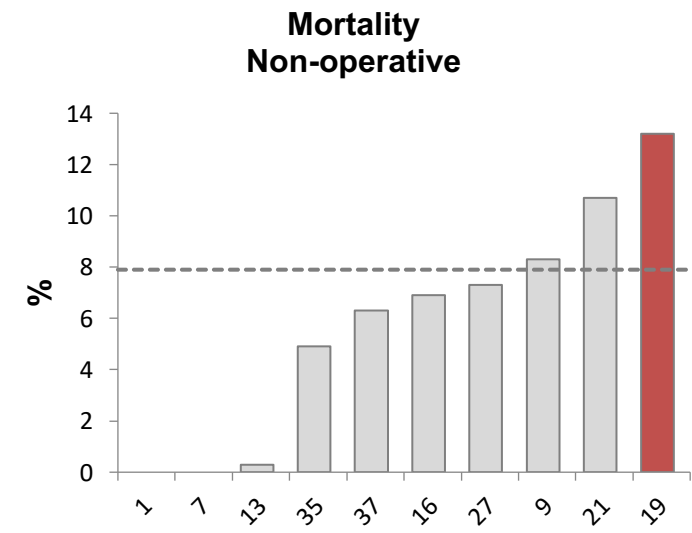
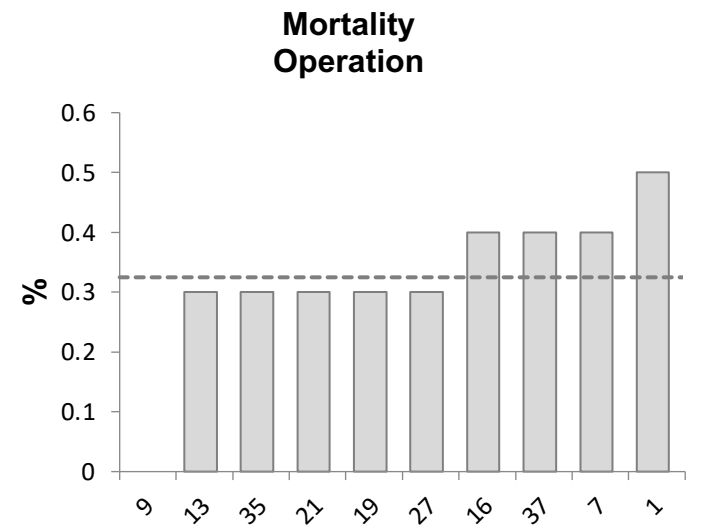
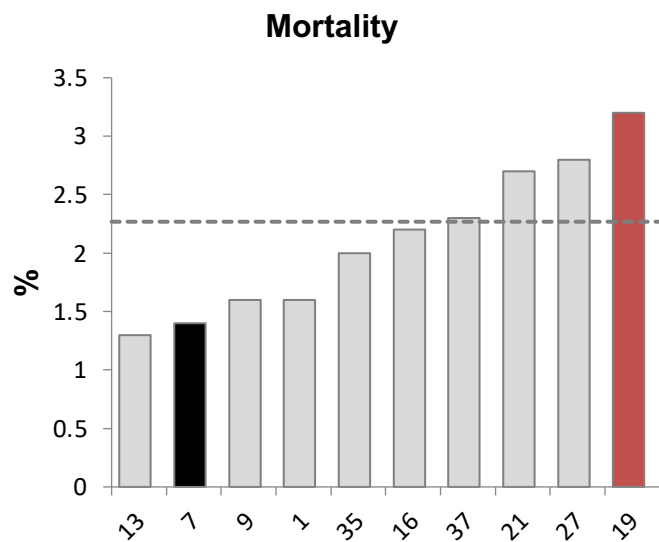
0.25 to 0.2% Flum, JAMA Surgery

# Gallbladder



Graphs Readmission

# Gallbladder



Graphs Mortality



# Acute Gallbladder Disease Readmissions

Understanding why patients return

## 50) **MACS Readmit**

Intent: To capture patients who have previously been included in the MACS database to evaluate management outcomes.

Definition: The patient has been previously entered into the MACS/Qualtrics database.

Variable Options:

- a. Yes
- b. No

Include: All

Exclude: N/A

Notes:

**Lunch**

**Back at 12:50p**



# Working to Maximize Value

Impact-Effort Matrix & Rubric for Selection of Performance Metrics

Grand Rapids, MI

Kim Kramer PA-C

April 26, 2023

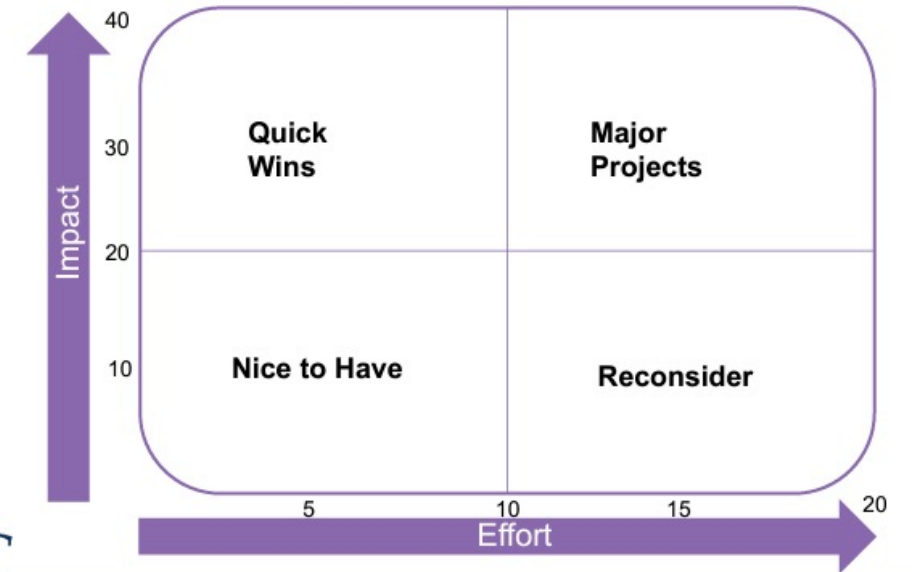


# December Meeting – Rubric Discussion

## Rubric

| Impact                         |    | Effort                            |    |
|--------------------------------|----|-----------------------------------|----|
| Scored 1 - 5                   |    | Scored 1 - 5                      |    |
| BCBSM priority                 |    | Barriers to success (feasibility) |    |
| Population impact              |    | Additional FTE requirement(s)     |    |
| Impact on health equity        |    | Additional expertise required     |    |
| Patient & caregiver priority   |    | Training & other costs            |    |
| Practice engagement/priority   |    |                                   |    |
| Time to impact (reverse score) |    |                                   |    |
| Collaboration with other CQIs  |    |                                   |    |
| External funding (grants)      |    |                                   |    |
| Total possible                 | 40 | Total possible                    | 20 |

## Impact-Effort Matrix



# MACS Rubric

- Each impact/effort component broadly defined with general examples provided on a separate document

| Impact (Scored 1 – 5)  |    |
|--|----|
| Promotes EGS system building                                       |    |
| Standardize EGS care with attention to evidence-based QI           |    |
| Actionable: assist decision making and drive improvement           |    |
| Alignment with industry standards: benchmark against others        |    |
| Multi-dimensional view of performance addressing different aspects |    |
| Patient experience, outcome, or satisfaction with care             |    |
| Population impact  |    |
| Total Possible   | 35 |

| Effort (Scored 1 – 5)  |    |
|--|----|
| Barriers to success (feasibility)                                |    |
| Additional FTE requirement or cost: coordinating center          |    |
| Additional FTE requirement or cost: participating center         |    |
| Training   |    |
| Timely and accessible data                                       |    |
| Measurable: can be accurately and consistently measured/reported |    |
|  |    |
| Total Possible   | 30 |

# MACS Metrics

| Metric  | Impact | Effort |
|---|--------|--------|
| Data Validation Scoring   | y      | x      |
| Z-Score Acute Appendicitis Readmissions & ED Visits   |        |        |
| Z-Score Gallbladder Readmissions & ED Visits  |        |        |
| Opioid prescribing: % of opioid-naive patients < 75th percentile (for appy, GB, ex-lap surgery) |        |        |
| Medical treatment of uncomplicated appendicitis: Home from ED, antibiotic recommendations       |        |        |
| Uncomplicated appendicitis: If fecalith present > operative intervention                        |        |        |
| Emergent Ex-lap: Obtain and calculate NEWS2 score   |        |        |
| Emergent Ex-lap: Timely CT when pt presents to your ED  |        |        |
| Emergent Ex-lap: Timely antibiotic administration   |        |        |
| Timeliness of surgery   |        |        |
| Reducing conversion rates (from minimally invasive to open surgery)                             |        |        |
| Reducing SSI  |        |        |
| Adherence to antibiotic guidelines (appendicitis)   |        |        |
| Reducing hospital LOS   |        |        |
| Recognition of sepsis or persons at risk for sepsis   |        |        |

# Survey – Version 1

- Time consuming for survey respondent
- Impact/Effort points start blending together

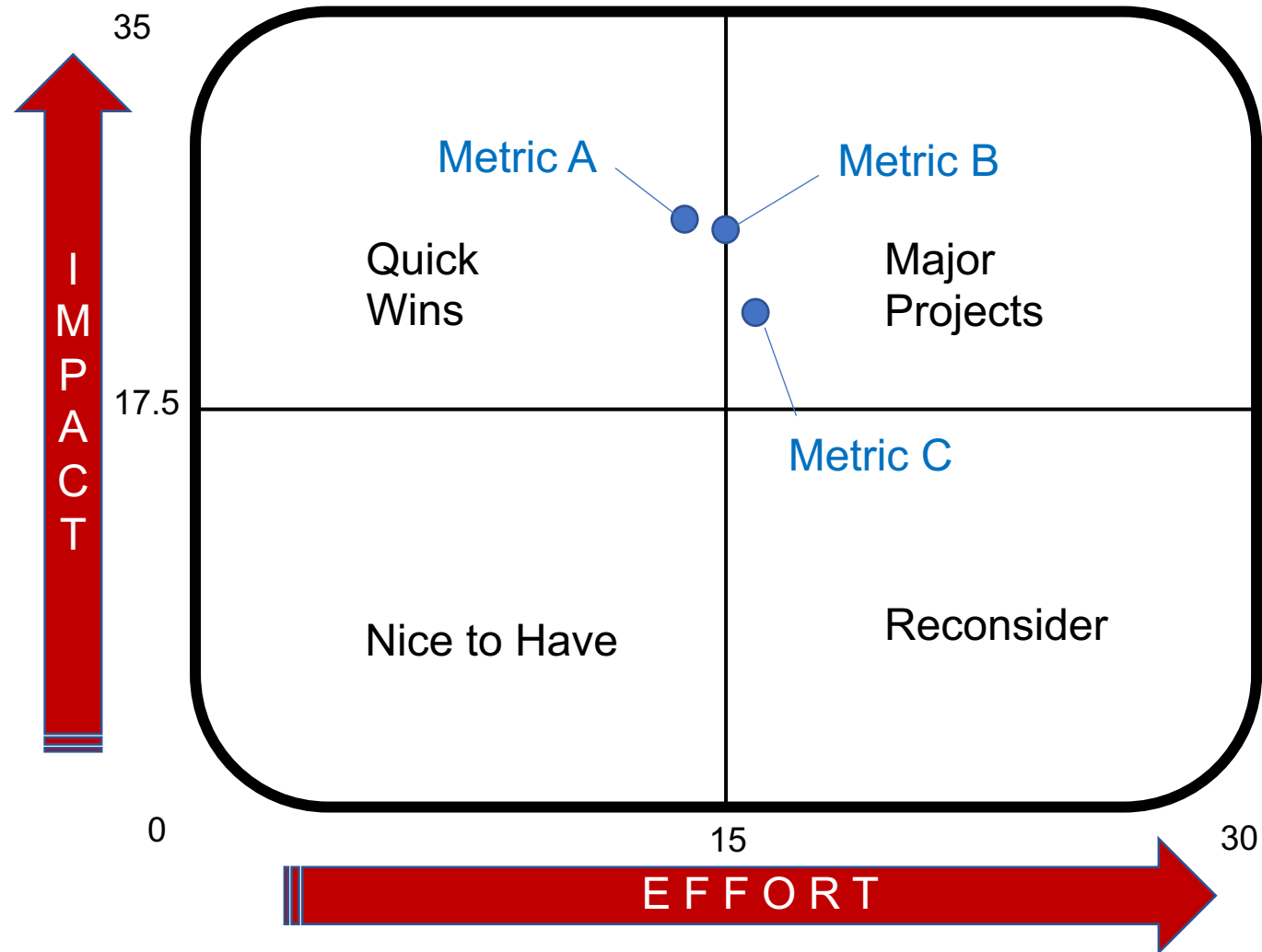
## Impact - Data Validation Scoring

|  | May not have an impact | Minimal impact        | Moderate impact       | High impact           | Most impactful        |
|--|------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Promotes EGS system building                                       | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Standardize EGS care with attention to evidence-based QI           | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Actionable: assist decision making and drive improvement           | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Alignment with industry standards: benchmark against others        | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Multi-dimensional view of performance addressing different aspects | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Patient experience, outcome, or satisfaction with care             | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Population impact  | <input type="radio"/>  | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

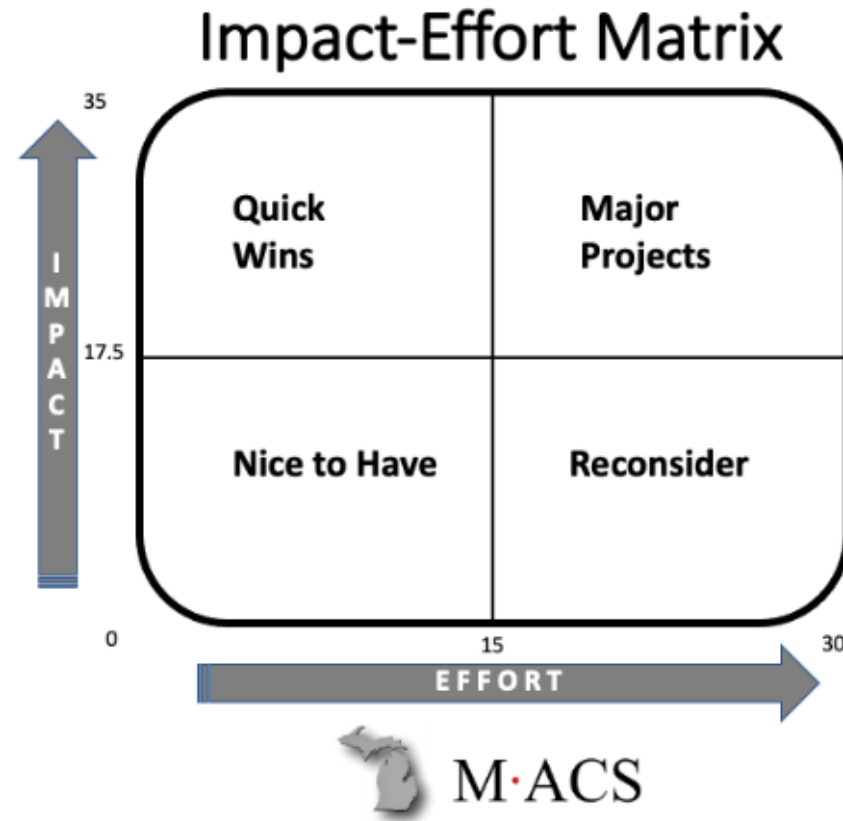
## Effort - Data Validation Scoring

|  | Extremely easy        | Somewhat easy         | Neither easy nor difficult | Somewhat difficult    | Extremely difficult   |
|--|-----------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| Barriers to success (feasibility)                                | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| Additional FTE requirement or cost: coordinating center          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| Additional FTE requirement or cost: participating center         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| Training   | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| Timely and accessible data                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |
| Measurable: can be accurately and consistently measured/reported | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      | <input type="radio"/> | <input type="radio"/> |

# Impact-Effort Matrix



# Survey – Version 2



- Would this help move your program forward?
- How easy will it be to collect the data?
- How easy will it be to create change in your system for improvement of the measure or to meet a new guideline?

## Data Validation Scoring

Nice to Have

Quick Wins


Major Projects

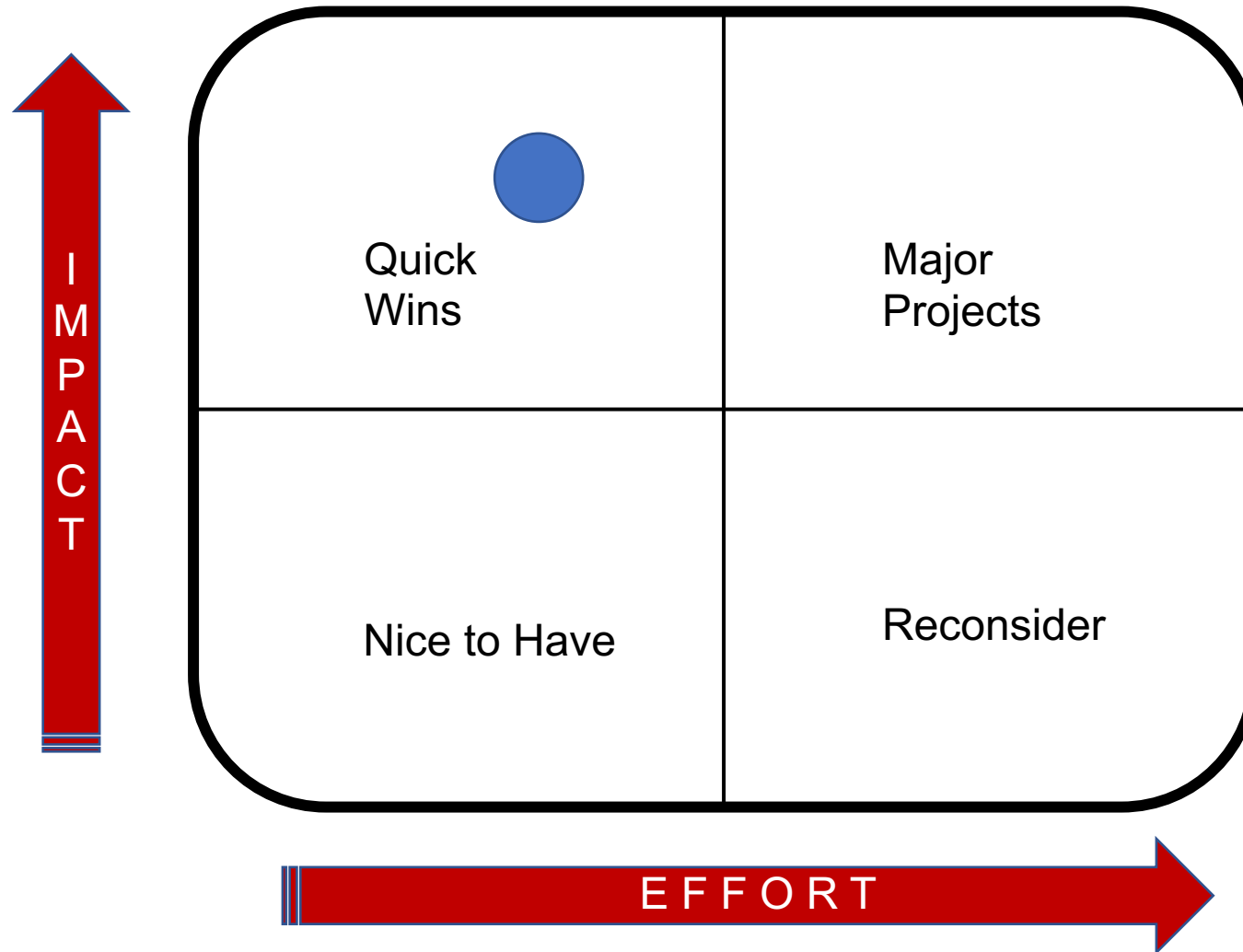
Reconsider

- One button to click

# Impact-Effort Matrix

Metric A

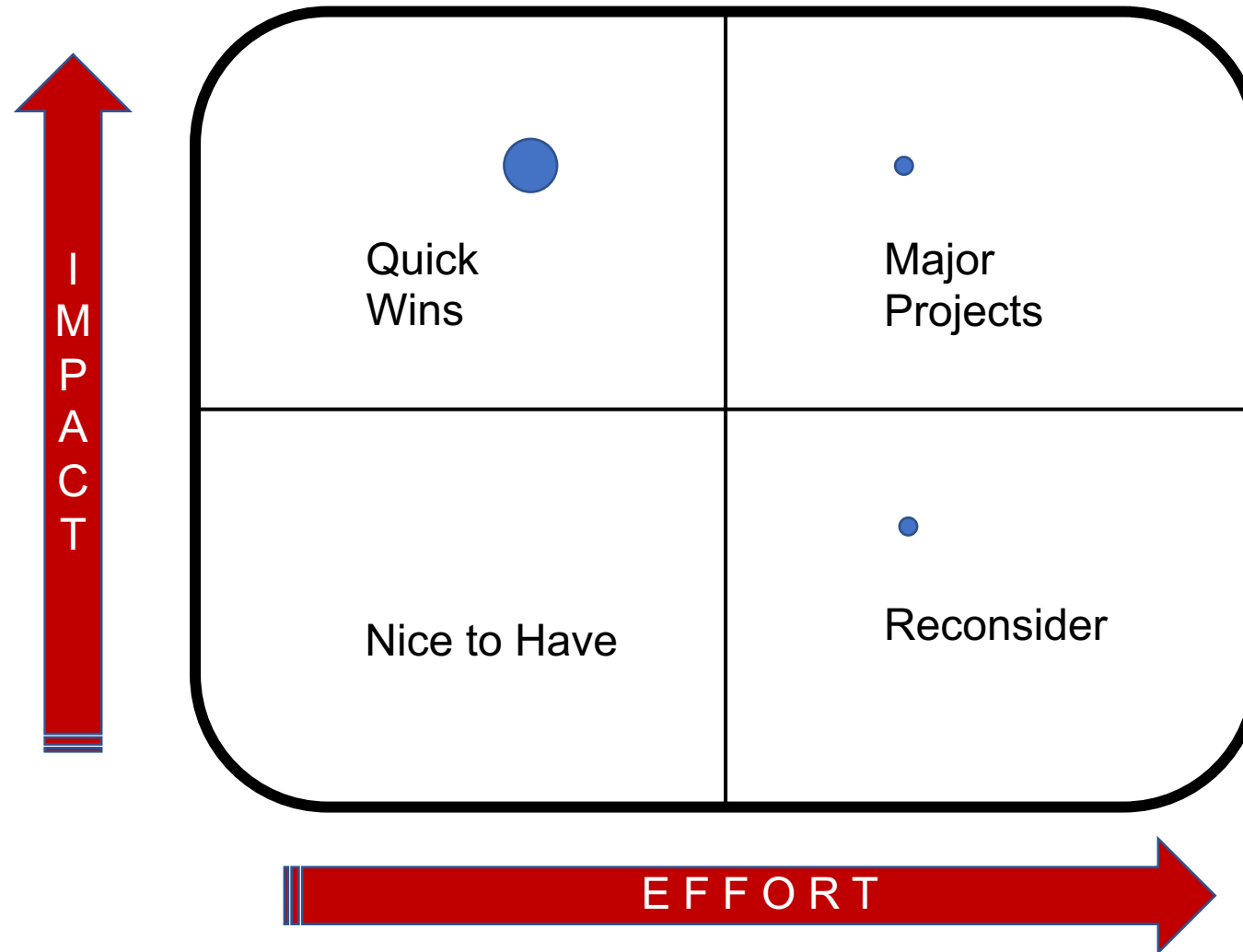
 = 5 votes





# Impact-Effort Matrix

Metric B



● = 3 votes

● = 1 vote



# Moving ahead: Survey version 2

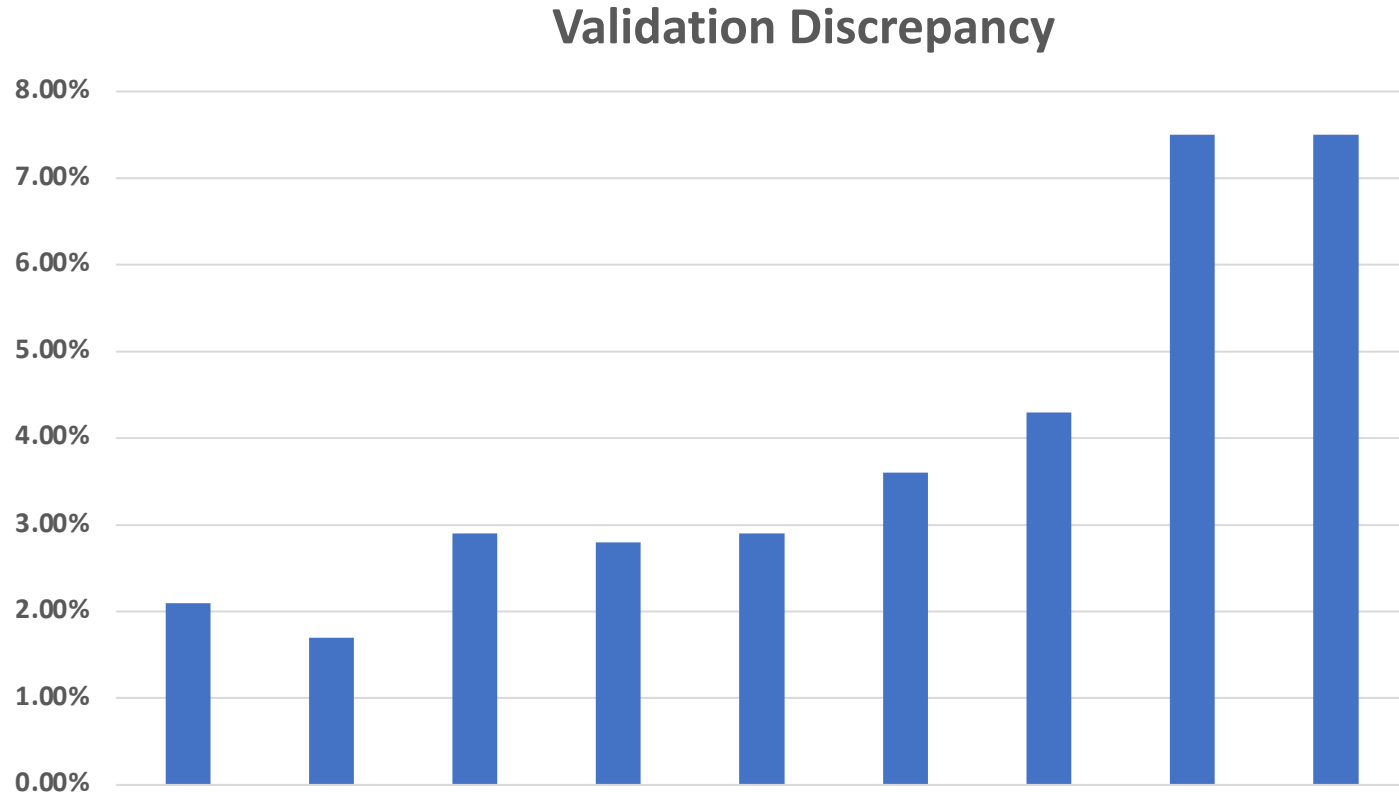


## Considerations for first round of metrics (internally):

- Data validation scoring - Selected
- Opioid prescribing - Polling
- Uncomplicated appendicitis – if fecalith > OR - Polling
- Z-score appendicitis readmissions/ED visits - Polling



## Data Validation Scoring

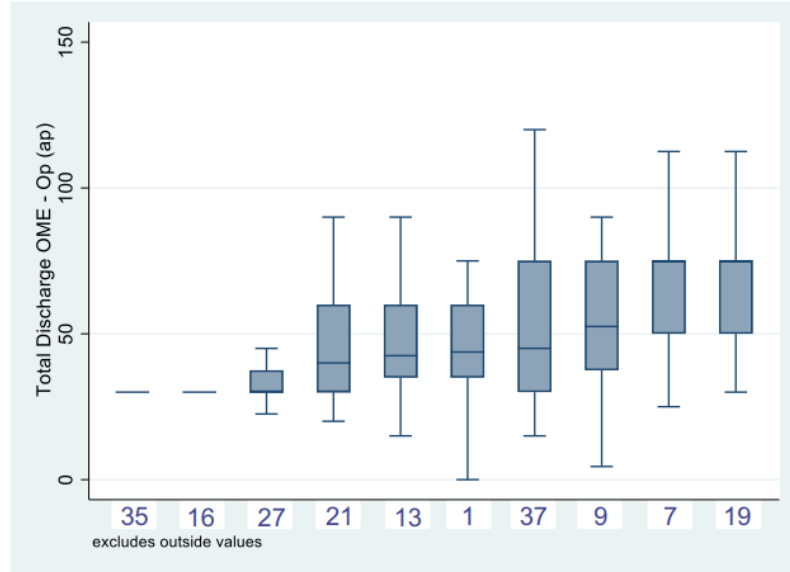


**Average  
Discrepancy 2022 =  
3.92%**



**M·ACS**

## Acute Appendicitis w Operation



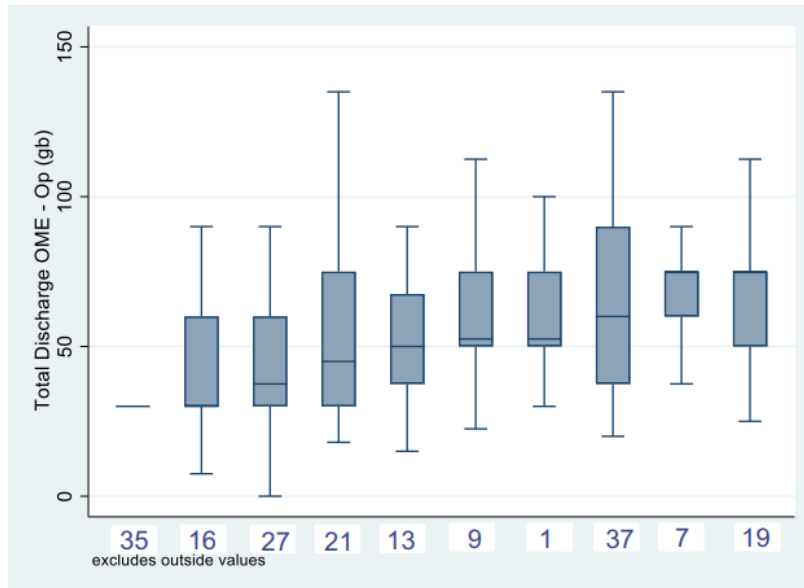
## Acute Appendicitis w Operation

➤ Dec 2022 Data

Operation: Appendectomy (Index only, operation=1, pre admission use of opioid medication=0)

| Hospital | Any Prescribed OME | Prescribed OME > 50th percentile |      | Prescribed OME > 75th percentile |     | Prescribed OME > Max |     |
|----------|--------------------|----------------------------------|------|----------------------------------|-----|----------------------|-----|
|          | N                  | N                                | %    | N                                | %   | N                    | %   |
| 9        | 52                 | 48                               | 92%  | 26                               | 50% | 7                    | 13% |
| 1        | 14                 | 13                               | 93%  | 4                                | 29% | 0                    | 0%  |
| 13       | 37                 | 36                               | 97%  | 11                               | 30% | 4                    | 11% |
| 35       | 108                | 106                              | 98%  | 3                                | 3%  | 3                    | 3%  |
| 16       | 61                 | 52                               | 85%  | 6                                | 10% | 3                    | 5%  |
| 37       | 61                 | 57                               | 93%  | 23                               | 38% | 12                   | 20% |
| 21       | 54                 | 49                               | 91%  | 16                               | 30% | 9                    | 17% |
| 7        | 112                | 112                              | 100% | 80                               | 71% | 10                   | 9%  |
| 19       | 86                 | 86                               | 100% | 59                               | 69% | 13                   | 15% |
| 27       | 87                 | 83                               | 95%  | 10                               | 11% | 2                    | 2%  |

## Cholecystectomy - All



## Cholecystectomy - All

Operation: Laparoscopic cholecystectomy (Index only, operation=1, type operation=lap, pre admission u

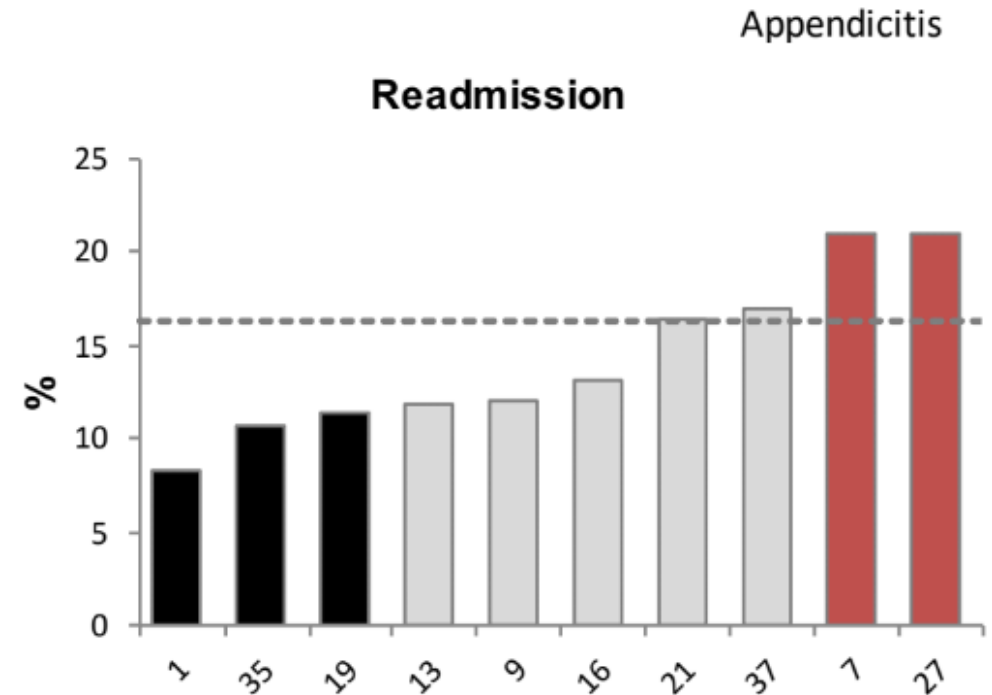
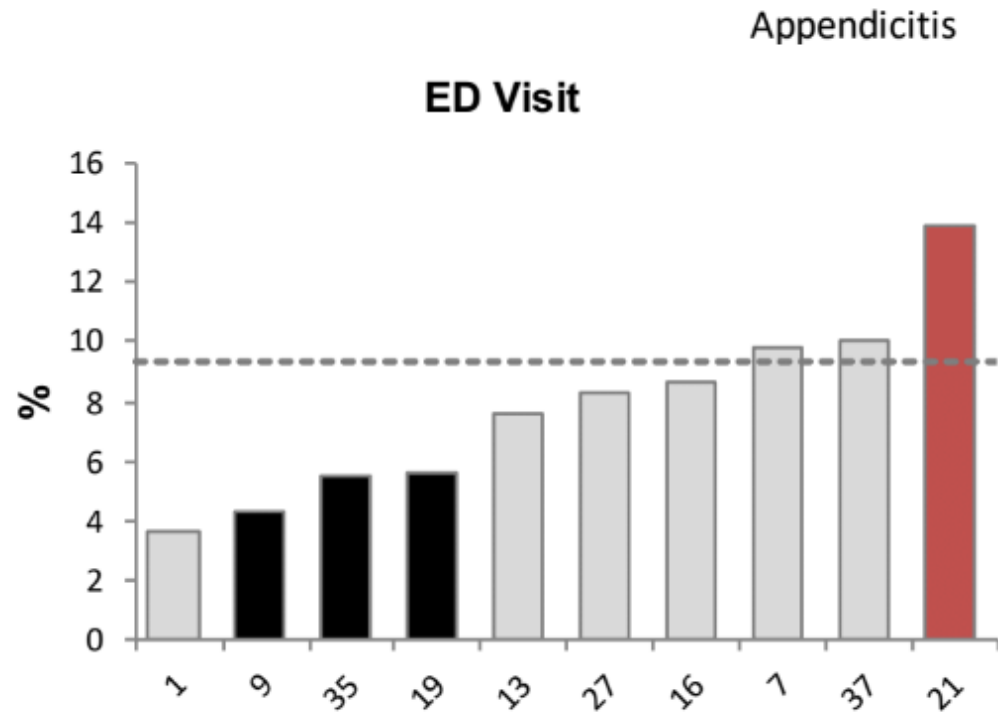
| Hospital | Any Prescribed OME | Prescribed OME > 50th percentile |      | Prescribed OME > 75th percentile |     | Prescribed OME > Max |     |
|----------|--------------------|----------------------------------|------|----------------------------------|-----|----------------------|-----|
|          | N                  | N                                | %    | N                                | %   | N                    | %   |
| 9        | 115                | 112                              | 97%  | 97                               | 84% | 18                   | 16% |
| 1        | 30                 | 27                               | 90%  | 24                               | 80% | 7                    | 23% |
| 13       | 72                 | 71                               | 99%  | 45                               | 63% | 6                    | 8%  |
| 35       | 79                 | 78                               | 99%  | 6                                | 8%  | 3                    | 4%  |
| 16       | 70                 | 65                               | 93%  | 16                               | 23% | 9                    | 13% |
| 37       | 101                | 100                              | 99%  | 58                               | 57% | 29                   | 29% |
| 21       | 128                | 127                              | 99%  | 54                               | 42% | 29                   | 23% |
| 7        | 147                | 147                              | 100% | 124                              | 84% | 12                   | 8%  |
| 19       | 107                | 107                              | 100% | 89                               | 83% | 24                   | 22% |
| 27       | 93                 | 88                               | 95%  | 18                               | 19% | 4                    | 4%  |

# Uncomp Appendicitis with Fecalith on CT and OR on Index Admit

- 533 total patients on index admission for appendicitis had a positive fecalith on CT and were uncomplicated. Of those, 514 had an operation during that admission (96%)

| center | operation_appy |     | Total |
|--------|----------------|-----|-------|
|        | N              | Y   |       |
| 9      | 0              | 35  | 35    |
| 1      | 0              | 12  | 12    |
| 13     | 0              | 24  | 24    |
| 35     | 1              | 72  | 73    |
| 16     | 0              | 18  | 18    |
| 37     | 3              | 38  | 41    |
| 21     | 1              | 94  | 95    |
| 7      | 6              | 115 | 121   |
| 19     | 1              | 29  | 30    |
| 27     | 7              | 77  | 84    |
| Total  | 19             | 514 | 533   |

# Z-score Appendicitis ED visits and Readmits



Next Step:  
Poll collaborative  
on metrics

Thank-you





# **Data and Reports**

**Mark Hemmila, MD**

**All Time    Total = 19,680 Index, 22,756 w Readmits**

**3154**

37

**4825**

21

**3621**

7

**4844**

27

**485**

1

**2300**

19

**814**

9

**1085**

35

**794**

13

**834**

16



**Michigan Acute Care Surgery Report**  
**Summary • 27 • 1/1/2020-3/1/2023**

| <u>Index Admission</u> |                                      | <b>Your Center</b><br><b>N = 3032</b> |          | <b>Aggregate</b><br><b>N = 17501</b> |          |
|------------------------|--------------------------------------|---------------------------------------|----------|--------------------------------------|----------|
| <u>Variable</u>        |                                      | <u>N</u>                              | <u>%</u> | <u>N</u>                             | <u>%</u> |
| Total Cases            | Index Admissions                     | 3032                                  | 17.3     | 17501                                | 100.0    |
|                        | Total Admissions (with Readmissions) | 3935                                  | 19.3     | 20406                                | 100.0    |
| By Disease             | Appendicitis                         | 706                                   | 23.3     | 4518                                 | 25.8     |
|                        | Gallbladder                          | 1025                                  | 33.8     | 7384                                 | 42.2     |
|                        | SBO                                  | 614                                   | 20.3     | 3197                                 | 18.3     |
|                        | Exploratory Laparotomy               | 380                                   | 12.5     | 1952                                 | 11.2     |
|                        | Other/None                           | 307                                   | 10.1     | 450                                  | 2.6      |

| <u>Index Admission</u> |   | Your Center<br>N = 3032 |          | Aggregate<br>N = 17501 |          |
|------------------------|---|-------------------------|----------|------------------------|----------|
| <u>Variable</u>        |   | <u>N</u>                | <u>%</u> | <u>N</u>               | <u>%</u> |
| CPT Code               | 47562, Laparoscopic cholecystectomy     | 625                     | 20.6     | 5015                   | 28.7     |
| 15 most frequent       | 44970, Laparoscopic appendectomy        | 434                     | 14.3     | 3623                   | 20.7     |
|                        | 47563, Lap cholecystectomy w IOC        | 25                      | 0.8      | 778                    | 4.4      |
|                        | 44120, Resection of small intestine     | 93                      | 3.1      | 536                    | 3.1      |
|                        | 44005, Freeing of bowel adhesion        | 55                      | 1.8      | 365                    | 2.1      |
|                        | 47600, Open cholecystectomy             | 87                      | 2.9      | 249                    | 1.4      |
|                        | 49000, Exploration of abdomen           | 27                      | 0.9      | 220                    | 1.3      |
|                        | 44140, Partial colectomy w anast        | 39                      | 1.3      | 201                    | 1.1      |
|                        | 44143, Partial colectomy w colostomy    | 34                      | 1.1      | 191                    | 1.1      |
|                        | 43840, Gastorrhaphy, Graham patch       | 23                      | 0.8      | 190                    | 1.1      |
|                        | 44950, Open appendectomy                | 36                      | 1.2      | 144                    | 0.8      |
|                        | 49561, Repair ventral/inc hernia        | 35                      | 1.2      | 123                    | 0.7      |
|                        | 44160, Partial colectomy with TI        | 27                      | 0.9      | 122                    | 0.7      |
|                        | 49320, Laparoscopy, diagnostic          | 23                      | 0.8      | 110                    | 0.6      |
|                        | 44050, Incision procedure on intestines | 26                      | 0.9      | 89                     | 0.5      |
|                        | All other                               | 287                     | 9.5      | 1380                   | 7.9      |

# Summary-Risk Factors

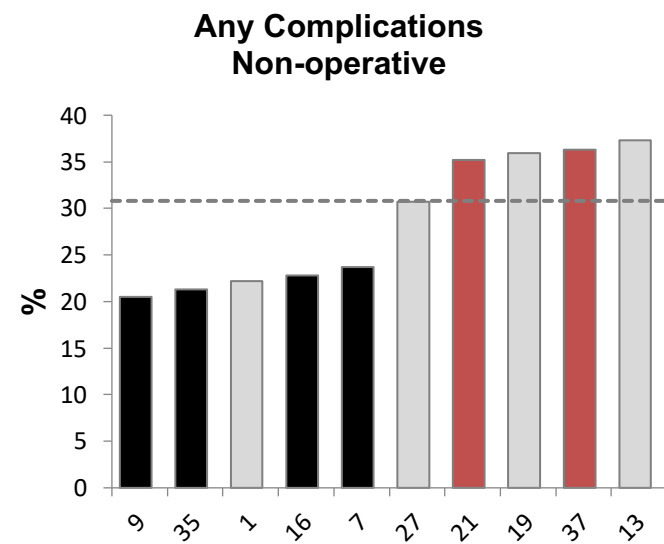
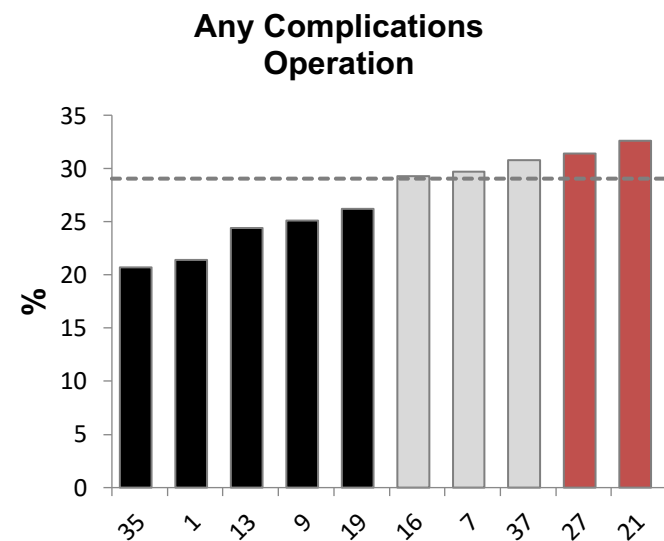
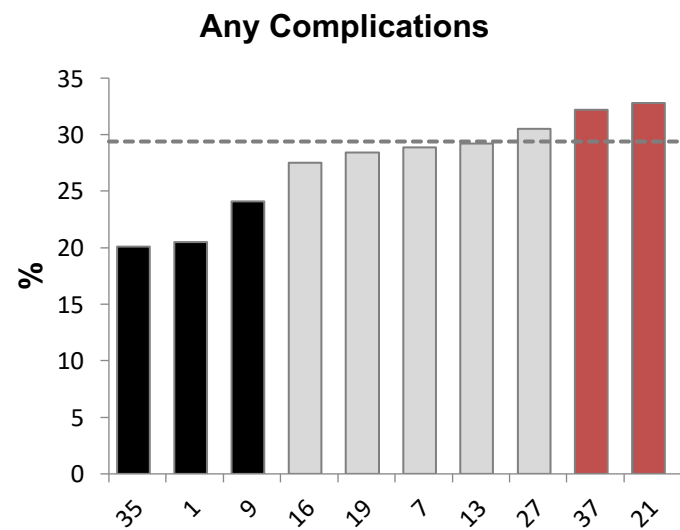
- ◆ COVID 19
  - Confirmed positive (active or historic)
  - 409 patients (2.3%)

- ◆ Pregnancy
  - 72 patients
  - 85% operative

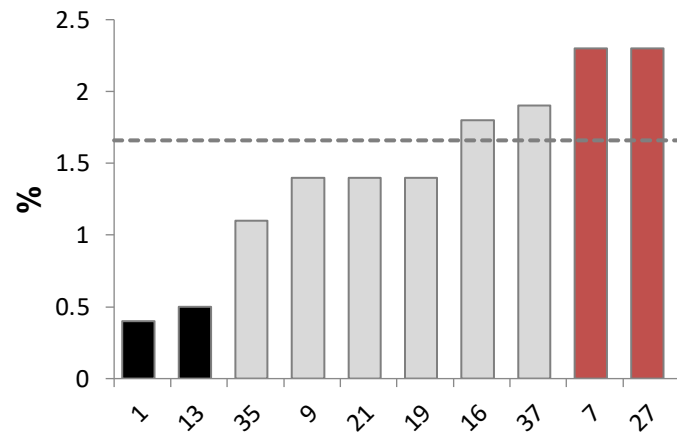
|              | Your Center |          | Aggregate |          |
|--------------|-------------|----------|-----------|----------|
|              | N = 3032    |          | N = 17501 |          |
|              | <u>N</u>    | <u>%</u> | <u>N</u>  | <u>%</u> |
| Pregnancy    | 14          | 0.5      | 72        | 0.4      |
| Operation    | 8           | 57.1     | 61        | 84.7     |
| No-operation | 6           | 42.9     | 11        | 15.3     |

# Sepsis

- ◆ Removed from Any Complications tally
- ◆ Included as individual outcome
- ◆ Separate sub-cohort
  - Comorbid = Sepsis
    - ◆ Severe sepsis/septic shock 7.5%
    - ◆ Sepsis 15.8%
  - Outcomes in patients with sepsis
- ◆ Meeting with HMS CQI to review definition and possibly synergize effort

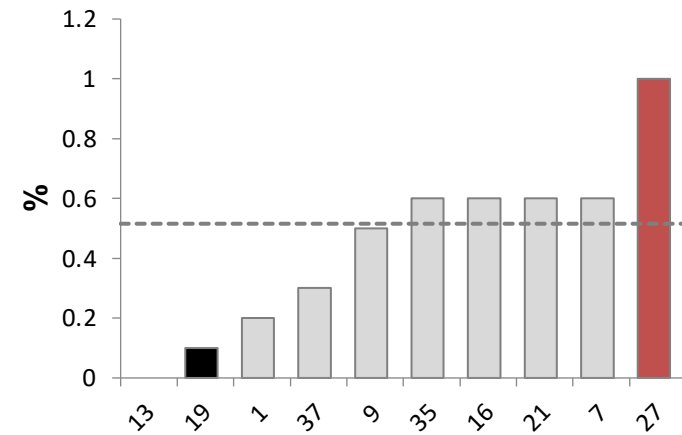


**Incisional SSI  
Operation**



2.7% vs 1.7%, 56 patients vs. 35 patients

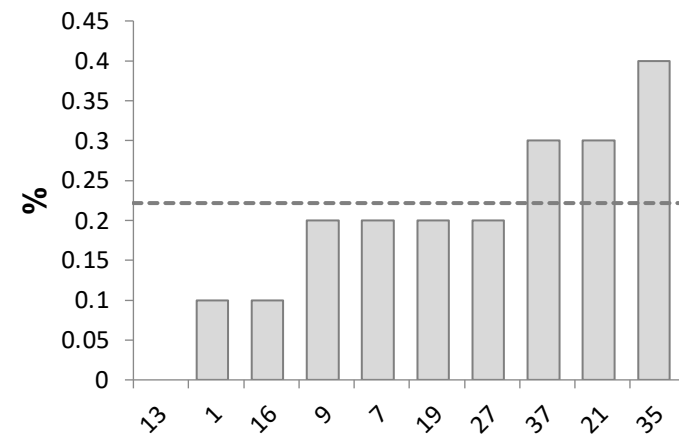
**Anastomotic Leak  
Operation**

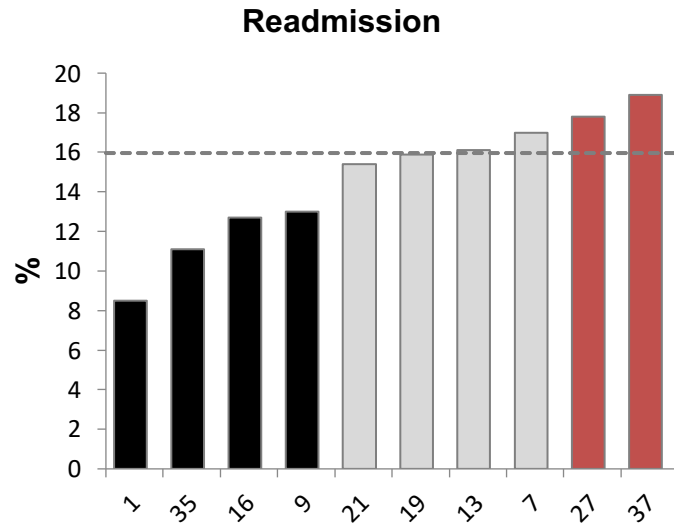


24 patients vs. 10 patients



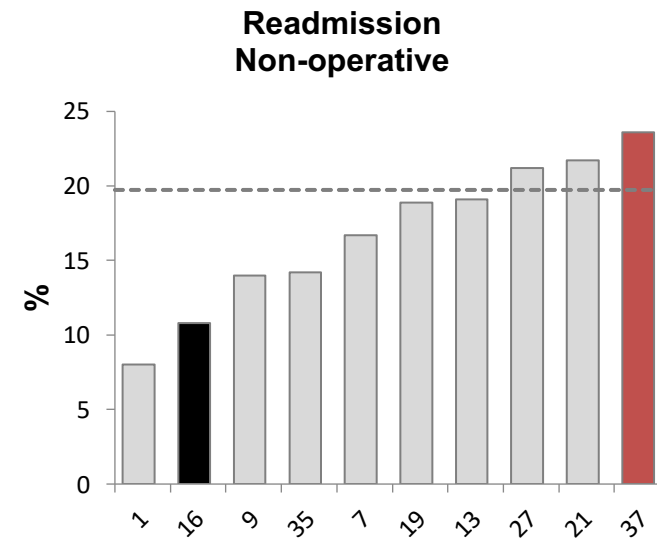
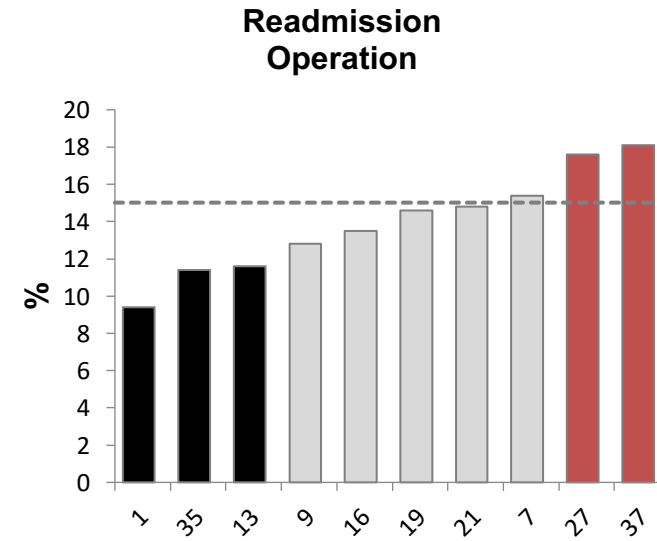
### Enterocutaneous Fistula Operation





$16.0\% \times 17,501 = 2,794$  patients

$2,794 \times \$8,000 = \$22,352,000$



# Questions



# Acute Appendicitis

- ◆ Perforated
- ◆ Readmit
  - List
  - Review Patients
- ◆ Antibiotic
  - Change data capture ?
  - Actual abx, not class
  - Efficacy
  - C. Diff





# Questions



## **Feedback (mhemmila@umich.edu)**

- ◆ Reports
  - Questions
  - Problems/Mistakes
  - Improvements
- ◆ Rubric
- ◆ Acute Appendicitis Lists
- ◆ See you in September

